**I. Remarks**

Claims 1-13 and 15-29 are pending. Claims 8-12, 16-18, and 22-29 stand withdrawn from consideration as being drawn to a non-elected invention. Claims 5 and 13 stand withdrawn from consideration as being drawn to a non-elected species. Claim 14 has been canceled without prejudice with this response. Claims 1-4, 6, 7,15, and 19-21 are being examined on their merits.

Claims 1 and 7 have been amended with this response. Support for these amendments are found throughout the original claims and instant specification, particularly at paragraphs [0029], [0117], and [0179]. As such, these amendments do not add new matter. Applicant respectfully requests their entry.

**II. Objections to the Specification**

The Office has objected to the specification because the specification indicates that SEQ ID NO.: 12 should be present in the instant application but SEQ ID NO.: 12 is not present in the sequence listing. To correct this inadvertent error, Applicant has submitted an amended sequence listing with this response that properly includes SEQ ID NO.: 12. In compliance with 37 C.F.R. § 1.825(a), Applicants have provided 1) substitute sheets comprising the amended "Sequence Listing" for entry into the instant specification, 2) two replacement compact discs comprising the computer readable form of the amended Sequence Listing, and 3) a statement identifying the location of support in the instant specification for the instant amendments. As such, Applicant respectfully requests that this objection be withdrawn.

**III. Claim rejections under 35 U.S.C. § 102**

A) Claims 1-4, 6, 7, 14, 19, and 21 stand rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by Nupponen et al., (1999), Am. J. Path., 154(6): 1777-83. Applicant respectfully traverses. Nupponen et al. does not and cannot anticipate claims 1-4, 6,14, 19, and 21 as amended because the reference is silent with respect to eIF3 differential expression in cells and/or tissues isolated from ovary, lung, pancreas, skin, colon, gastro-intestine, and blood. With respect to claim 7, Nupponen et al. also does not and cannot anticipate the instant claim because the reference does not teach that a two-fold increase in eIF3 levels, relative to normal or control cell, indicates a neoplastic condition or susceptibility in the cells and tissues currently claimed.

Claim 1 has been amended to claim the particular embodiment of the instant invention where the test sample is isolated from cells or tissues selected from ovary, lung, pancreas, skin, colon, gastro-intestine, or blood. As noted by the Office, Nupponen et al. teaches that eIF3-p40 gene over-expression may contribute to the pathogenesis of breast and prostate cancer. Nupponen et al. hypothesize this based on the eIF3 gene's amplification and over-expression in several breast and prostate cancer cell lines. However, Nupponen et al. is silent with respect to eIF3 expression characteristics in any of the tissues or cells currently claimed. Absent disclosure with respect to the instantly claimed tissues and/or cells, Nupponen et al. does not and cannot anticipate the instant claims. Applicant respectfully requests withdrawal of the rejection as applied to claims 1-4, 6, 14, 19 and 21.

Claim 7 has been amended to claim the particular embodiment of the instant invention where 1) the test sample is isolated from cells or tissues selected from ovary, breast, lung, pancreas, skin, colon, gastro-intestine, or blood and 2) where a neoplastic condition is diagnosed upon at least a two-fold increase in eIF3 expression relative to a normal or control sample. Nupponen et al. teaches that eIF3-p40 gene over-expression may contribute to the pathogenesis of breast and prostate cancer. However, Nupponen et al. does not teach or suggest that the a two-fold increase in eIF3 levels, relative to normal or control cell, indicates a neoplastic condition or susceptibility in the cells or tissues currently claimed. This includes the breast cancer cell lines examined.

Contrary to the Office's conclusion, a closer reading of Nupponen reveals that all the comparisons made with respect to eIF3 levels were done amongst the group of breast cancer cell lines tested and not to a control or normal cell line. Applicants point to Figure 3A, which demonstrates increased expression of eIF3 levels in three breast cell lines and three prostate cancer lines as compared to the eIF3 expression levels in the ZR75-1 cell line. Importantly to the instant rejection, ZR75-1 cells are a breast cancer cell line, not a control or normal cell line (see Nupponen et al. at Materials and Methods, first full paragraph.) In Figure 4 of Nupponen et al., Applicants again note that eIF3 levels in breast cancer cells were only compared to each other. The eIF3 levels of the breast cancer cells were not compared to eIF3 levels in normal or control cells, as required by the instant claim.

In fact, there are no comparisons of eIF3 levels in any of the claimed cells or tissues to eIF3 levels in normal or control cells, including breast cancer cells. Furthermore, Nupponene et al. provides no data to teach or suggest that a two-fold increase in eIF3 levels, as compared to normal or control cell levels, is indicative of a neoplastic state for any of the currently claimed tissues or cells. Absent disclosure with respect to a two-fold increase in eIF3 levels in the claimed tissues, Nupponen et al. cannot anticipate the instant claims. Applicant respectfully requests withdrawal of the rejection as applied to claim 7.

B) Claims 1-4, 7, 14, 15, 19, and 21 stand rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by Tymms et al., (1997), Oncogene, 15(20): 2449-62. Specifically, the Office has concluded that Tymms et al. teaches that elevated expression of eIF3 (or eif3) gene was detected in primary lung cancer tissue samples as compared to normal lung tissue samples. Applicant respectfully traverses. Tymms et al. does not teach or disclose that differential expression of eukaryotic translation initiation factor 3 (eIF3) at all. Rather, Tymms et al. discusses a member of the ETS family of transcription factors, the ELF3 (or elf3) gene.

Applicant discovered that eIF3 is an antigenic protein whose differential expression serves as a marker for a neoplastic phenotype in a variety of cancers. The eIF3 gene is identified in the instant specification by Genbank accession number NM_003756; both the cDNA and protein sequence associated with this gene are provided by the specification. In contrast, Tymms et al. discloses the ELF3 (or elf3) gene cDNA and protein sequences. These are found in Genbank at accession number AF016295, which cites the Tymms et al. reference. Applicant has enclosed a copy of both Genbank accession number's information, NM_003756 and AF016295, for the Office's convenience. A comparison of the information in these two records indicates that the two genes are not the same despite the similarity in gene name. As such, Applicant respectfully assert that Tymms et al. does not anticipate the instant invention. Withdrawal of this rejection is respectfully requested.

**IV. Claim rejections under 35 U.S.C. § 103(a)**

A) Claims 1, 7, and 14 stand rejected under 35 U.S.C. §103(a) as being unpatentable in light of Tymms et al. Specifically, the Office alleges it would have been *prima facie* obvious to the skilled artisan at the time of filing to use the claimed method to diagnose ovarian tumors based on the teachings of Tymms et al. with respect to the ELF3 over-expression in lung tumors. Applicant respectfully traverses. The establishment of a *prima facie* case of obviousness requires, in part, that the reference(s) teach all claim limitations (MPEP 2143.03). Tymms et al. fails to provide the differential expression of eukaryotic translation initiation factor 3 (eIF3). Therefore, no *prima facie* case of obviousness can be established based on Tymms et al.

As discussed above, the instant claims turn on the differential expression of eukaryotic translation initiation factor 3 (eIF3) whereas Tymms et al. discusses the oncogenic potential of a different gene, the ELF3 (or elf3) gene, which is a member of the ETS family of transcription factors. Since the cited reference fails to provide all the claim limitations of the instant invention, no *prima facie* case of obviousness can be established based on its teachings. Applicant respectfully requests withdrawal of this rejection.

B) Claims 1, 3, 15, and 20 stand rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Tymms et al. in view of U.S. Patent Serial No. 5,445,934. Specifically, the Office alleges it would have been *prima facie* obvious to the skilled artisan at the time of filing to use a chip to detect mRNA encoding ELF3 based on the teachings of Tymms et al. with respect to the ELF3 over-expression in lung tumors. Applicant respectfully traverses.

As discussed above, the instant claims turn on the differential expression of eukaryotic translation initiation factor 3 (eIF3) whereas Tymms et al. discusses the oncogenic potential of a different gene, the ELF3 (or elf3) gene, which is a member of the ETS family of transcription factors. Therefore, no *prima facie* case of obviousness can be established based on Tymms et al. Applicant respectfully requests withdrawal of this rejection.

C) Claims 1, 7, and 14 stand rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Nupponen et al. in view of Tymms et al. The Office has concluded that it would have been obvious for one of ordinary skill in the art to use a two-fold increase in eIF3 levels over a normal control sample as a marker for ovarian cancer. Applicants respectfully traverse.

As discussed above, Tymms et al. does not teach or suggest any information regarding the role of eukaryotic translation initiation factor (eIF3) in the pathogenesis of cancer. Rather, it discusses the oncogenic potential of the ELF3 gene, which is a member of the ETS family of transcription factors. Since it fails to discuss eIF3 as required by the instant claims, no *prima facie* case of obviousness with respect to eIF3 can be established based on any combination made with Tymms et al. Applicant respectfully requests withdrawal of this rejection.

**VI. Conclusion**

No fee is deemed necessary in connection with the filing of this communication. However, if any fee is required, authorization is hereby given to charge the amount of any such fee to Deposit Account No. 07-1074.

Respectfully submitted,

1/22/05
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